The Emergence of Saudi America - A Five-Year Global Energy Outlook

How Pad Drilling is Driving Drilling Efficiency Up and Demand For Oilfield Services Down

Comparing the Economics of Unconventional and Deepwater MEGA-Projects

What can nanotechnology do for the oil and gas industry?
Fall is here, Christmas is just around the corner, and SPE-GCS has a full schedule of events. In October, SPE-GCS has planned seven industry knowledge sharing events; two community service events where you can have some fun time with family; and a networking social event after work. Please visit the SPE-GCS website and sign up for events which interest you.

Looking forward, please plan your November schedule. Among our events, the Reservoir Study Group is pleased to have an SPE Distinguished Lecturer, Brad Berg from Anadarko, scheduled for November 14th 2013. His talk, Characterizing Shale Plays — The Importance of Recognizing What You Don’t Know, is timely on a technology level and provides an opportunity to directly question a world-class expert. Take advantage of the Distinguished Lecturer Program; they are always especially enlightening. Sunil Lakshminarayanan is the new Chair of the Reservoir group (This group is one of the many technical sharing groups in SPE-GCS) and he looks forward to seeing you there. You can visit the SPEGCS.org site to sign up for the lecture.

SPECIAL FOCUS – CAREER DEVELOPMENT

In 2012, SPE completed a Training & Development Study which identified a range of skills that are important for a successful career in the Oil and Gas Industry. The most sought after being the ability to learn, teamwork, communication skills, work ethic, and technical skills. Our Career Management Committee will be using results of this study, and gathering insight from members to develop new ideas for our 2014 program. In October, watch out for a Career Management networking opportunity event on the website. This will give you the chance to meet our new committee, network with other professionals, and share ideas (or suggestions) for the coming year’s program.

Career Management has confirmed two Ethics Seminars; one was this past month and the next one is planned for December 3rd – please make sure you register early to attend as these fill up quickly. If you have a specific career management topic you would like SPE-GCS to host, or want to become a part of this exciting Committee, please get in contact with Patty Davis, Chair pdavis@petroskills.com

JUST THOUGHT YOU SHOULD KNOW....

PetroWiki is a free, publicly available resource from the Society of Petroleum Engineers (SPE) with technical information and equations related to the upstream Oil and Gas Industry. It is based on SPE’s 7-volume Petroleum Engineering Handbook (PEH). The PEH volume, covering drilling and completions, was included in PetroWiki as a pilot project in October 2012. The remaining volumes of PEH will be available in 3rd Quarter 2013.

As a professional in the industry, you can share your expertise and experience by contributing content to PetroWiki. Check out the process and share what you have learned.

PetroWiki www.petrowiki.org

We want to provide members and the community with useful information and benefits. We welcome your comments and ideas. Please contact me at mike-strathman@att.net
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October 2013

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SPE GULF COAST SECTION DIRECTORY
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UH STUDENT CHAPTER GOLF TOURNAMENT
Friday, November 15th
Deeper and deeper water. Larger projects. More complex design challenges. More people with highly specialized skills. Fewer people who see the big picture.

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## SPE-GCS MEMBERSHIP REPORT

### August 2013

#### AUGUST 2013

<table>
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<th>Total: 15,245</th>
<th>JULY 2013</th>
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### AUGUST 2013

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<td>1</td>
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<tr>
<td>Unpaid</td>
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### JULY 2013

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<td>New Members</td>
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<tr>
<td>Transferred to Section</td>
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<td>2</td>
</tr>
<tr>
<td>Unpaid</td>
<td>2,438</td>
<td>815</td>
</tr>
</tbody>
</table>

### Student Members

#### Texas A&M

- Paid: 646
- Unpaid: 200

#### UH/Rice

- Paid: 405
- Unpaid: 82

#### HCC

- Paid: 85
- Unpaid: 13

### Total

- Paid: 1,136
- Unpaid: 295

### Total Paid/Unpaid

- Paid: 16,381
- Unpaid: 2,666

### % Paid

- 86.0%

### EVENTS STUDENT GOLF TOURNAMENT

#### Inaugural Society of Petroleum Engineers UH Student Chapter Golf Tournament

**Scramble Tournament Hosted by Black Horse Golf Club**

Trophies for top teams, hole prizes and a raffle. All proceeds to benefit SPE UH Student Chapter.

#### SPONSORSHIP LEVELS

- **Platinum Sponsor**: $5,000
  - Two (4 person) team entries

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  - Two (4 person) team entries

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  - Single (4 person) team entry

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- **Hole Sponsor**: $250
  - Signage at any non-on-course event hole

#### TIME & DATE

- **Friday, November 15th at Noon**

#### LOCATION

- **Black Horse Golf Club**
  - 12205 Fry Road
  - Cypress, TX 77433

#### REGISTRATION FEE

- $250 – Single Entry
- $850 – 4 Person Entry

#### REGISTRATION

- **Brandon Englert**
  - bmenglert@uh.edu
  - 713-702-0427
October 1963

Stockholders of Texas Pacific Coal and Oil will vote this month on an agreement to sell all of its assets to Joseph E. Seagram & Sons (Looks like the distillers are teaming up.).

A total of 104 slant-hole drilling suits are filed against 70 East Texas operators (You know, it’s not easy to drill a straight hole.).

The Pan American Petroleum well in Cook Inlet, Alaska that has been blowing gas and condensate is close to being brought under control, after a mere 13 months of uncontrolled flow.

West Texas operator Jake L. Hamon prepares to drill a 21,000 ft wildcat in Reeves County targeting the Ellenburger formation (How many of you “boomers” worked the Ellenburger play back in the day?).

Meanwhile, the prolific Wolfcamp play remains hot in the Delaware basin (If only they could have drilled them horizontally?).

U.S. active rig count – 1,526

October 1988

U.S. oil companies could reportedly be banned from exploration in the U.K. North Sea if the U.S. follows through on proposed sanctions against South Africa (Figure that one out!).

Crude oil prices drop to the lowest level since late 1986 (less than $15/bbl). OPEC President Lukman warns that if the lack of discipline within OPEC continues, there could be a rerun of 1986 with prices falling to $9/bbl.

Meanwhile, due to tight supplies, natural gas prices are forecasted to hit $2.50/Mcf this winter (A bit of a different picture than in 2013.).

Frontier exploration stirs off, would you believe….North Carolina, offshore Cape Hatteras in particular.

Oman reports plans to build a floating methanol plant off its coast which will be up and running in 1990.

WTI crude oil - $14.78/bbl; U.S. active rig count – 921

October 2008

Chesapeake Energy’s 18,000-acre lease in the Newark East field on Dallas-Fort Worth International Airport land has drilled 82 wells and has five rigs drilling for Barnett shale gas.

Total reports plans to upgrade its 158,000 b/d Provence refinery located on the French Riviera (Word has it that crude oil is stored here in wooden casks rather than in steel tanks prior to being refined.).

Petrohawk Energy reports a horizontal new field discovery well drilled in the Eagle Ford shale in La Salle County in South Texas. Petrohawk has plans to drill a total of three discovery wells in this area and will run one rig continuously to explore the Eagle Ford.

MarkWest begins installation of a 30 MMcfd cryogenic gas processing plant to process Marcellus gas near Houston (Oh!... That’s Houston, Pennsylvania).

Global offshore heats up, with new discoveries in the GOM, Angola, Australia, and Brazil.

Light sweet crude oil - $86.22/bbl; Natural gas - $6.74/MMBtu; U.S. active rig count – 1,990

This month, we conclude our look back at the life and times of John D. Rockefeller.

To be sure, Rockefeller held onto a great deal of his wealth. His net worth at its peak in 1913 was $900 million, equivalent to about $15 billion today. He gave away $530 million in his lifetime, a staggering amount even today.

As he grew older, John D. Rockefeller loosened up. In the last 30 years of his life he was kind, sweet-tempered, and easygoing. He golfed almost every morning, listened to music, played the stock market, watched car races, handed out dimes and nickels, sat on his sunporch visiting with family and friends, ogled Jean Harlow in the movies, appeared in newsreels, and generally enjoyed life. By the 1920’s the public loved him.

His wife Cettie died in 1915 at age 75, but Rockefeller’s health remained robust. He moved seasonally between his 3,000-acre main
If you would like to participate in this month’s quiz, e-mail your answer to contest@spe.org by noon, October 15th. The winner, who will be chosen randomly from all correct answers, will receive a $50 gift card to a nice restaurant.

“Many folks believe I’ve done much harm in the world,” Rockefeller said when he was in his mid-90’s, “but on the other hand, I’ve tried to do what good I could, and I would really like to live to be a hundred.” He almost made it. He died peacefully in Florida at the age of 97 on May 23, 1937. He is buried in Cleveland, Ohio.

Next month, a tragic mistake associated with the Rockefellers.

---

Then & Now October Quiz

In the early days of refining crude oil, what chemical was used to purify distilled kerosene?

Answers to September’s Quiz

In December 1928, Amerada drilled the first oil well in history in a structure identified with a reflection seismograph.

Congratulations to April’s Winner

TYLER DAVIS VALERUS

If you would like to participate in this month’s quiz, e-mail your answer to contest@spe.org by noon, October 15th. The winner, who will be chosen randomly from all correct answers, will receive a $50 gift card to a nice restaurant.

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- Gas Lift
- Completion Products
- Maintenance & Repair
- Training

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The Emergence of Saudi America - A Five-Year Global Energy Outlook

‘Peak Oil’ and the $500 oil price forecast of some “energy pundits” are still fresh memories to us. Only five years later, the media is fixated on “Saudi America” and the vast supply of the dark stuff that some say is going to lead to an oil price collapse. Herewith, we are taking the time to peer into our crystal ball and lay out the supply and demand economics for hydrocarbons from 2013 through 2017.

The current overabundance of natural gas and natural gas liquids has led to a severe cratering of prices on the one hand, but has set in motion a variety of longer-term demand drivers on the other. The emergence of new demand is moving slowly, and although we would like to take the quixotic viewpoint that lower fuel sources will create an industrial renaissance in the US, we are faced with uncertainties surrounding healthcare cost and corporate tax rates that will alter project economics when compared with international options.

On the oil front, fears that the oil boom in the US will create global oversupply causing a collapse in the price of the liquid gold are at the forefront of investors’ concerns. We have worked through the supply and demand drivers of natural gas, ethane, propane, butane, C5+ and crude oil over the next half-decade, along with the services required to achieve our forecasts, as will be shown in this presentation.

Michael Kelly

Michael (Mike) Kelly is Vice President and Senior E&P Analyst for Global Hunter Securities LLC. Mr. Kelly covers 26 independent E&P companies, ranging from Permian Basin-focused Clayton Williams Energy Inc. and Concho Resources Inc. to Bakken giant Whiting Petroleum Corp.

Prior to joining Global Hunter Securities in August 2011, Mike was a buisde energy analyst for Kennedy Capital in St. Louis. He received his MBA from Washington University’s Olin School of Business and his undergraduate degree from Trinity University in San Antonio, where he majored in Business Administration and minored in Political Science. Kelly is a CFA Charterholder.
Expanding Gas Demand – When Will the Cavalry Arrive?

Join us at the Four Seasons Hotel as Timothy Vail will update us on G2X Energy’s expanding gas to liquids portfolio while Cheniere Energy’s Renato Pereira will cover their plans to increase LNG export capacity along the Gulf Coast. The popular format of a Business & Social Networking hour, with complimentary hors d’oeuvres and a cash bar, followed by an hour-long program, will begin at 5:00 pm in the Mezzanine.

Operators of North American unconventional assets have far exceeded expectations in delivering a secure, long term supply of natural gas. However, this supply surge has resulted in falling natural gas prices that have producers wondering when the demand side will arrive like the cavalry in a John Wayne western. Our speakers will address two sources of the coming uptick in demand – gas to liquids and NGL exports. What are the differences in regional impact of these demand sources. How do they differ in scale and timing? Do they each target a specific type of operator? Who are their main customers and what are the principal expectations of each? How can national, state and local governmental entities hinder or promote their growth? What issues are there to vet with public organizations? How dependent are they on global economic impacts?

Renato Pereira

Mr. Pereira has over 25 years of experience in the petrochemical industry, regulated natural gas pipelines and in deregulated trading and marketing. At Transco and Entergy/Koch, Mr. Pereira led the development of $2 billion of regulated pipeline facilities adding in excess of 2 Bcf/d of capacity to the US grid. As President of Gulf South Pipeline, he directed an interstate pipeline with over 10,000 miles of pipe and 600 employees. Mr. Pereira holds a Bachelor’s in Chemical Engineering and an MBA.

Timothy Vail

Timothy Vail’s entrepreneurial career has spanned fuel cells to natural gas conversion to fuels. Previously, he was President of Accelergy Corporation, which focused on the commercialization of a broad range of energy conversion technologies. At Synthesis Energy Systems, he took the company public on NASDAQ, raising more than $200 million for building their first commercial facility. As GM’s Director of Commercialization for Fuel Cell Development, his responsibilities included developing GM’s Shanghai fuel cell office. He holds a JD degree from the University of Houston and a Bachelor’s in Economics from UT Austin.
Development of the Brittle Shale Fracture Network Model

This talk discusses the workflow for the development of a brittle shale model using a data mining approach. A database of more than 1,000 fracture stages and associated microseismic mapping results in the Barnett Shale was assembled. The fracture database is comprised of fracture design parameters including treatment volumes, rates, proppant mass and size, perforation length, fracture pressure, surface pressure trend and fracture dimensions on horizontal well bores. The goal of this analysis is to establish the relationship between frac design, pressure and frac network geometry. Data mining techniques are used on this complex database to find possible hidden relationships to explain the nature of the data. The outcome of this study is to develop a predictive model for fracture networks in shale. Also, using the predictive model, improvements in the current fracture design in the Barnett shale are made.

Dr. Amir Nejad

Dr. Amir Nejad received his doctorate degree in Petroleum Engineering from Pennsylvania State University in 2011. His thesis dissertation is focused on development of reservoir characterization workflow for unconventional reservoirs with the help of artificial intelligence expert systems. He worked in the center for smart oilfield technologies (CiSOFT) and learned the IT aspect of oil exploration and production while earning his Master’s degree in petroleum engineering at University of Southern California.

He joined StrataGen, the independent consulting arm of CARBO Ceramics, in 2012 and since then he is heavily involved in well completion and hydraulic fracture design evaluation using DANA® workflows (Data and Neural Analysis) for multiple operators in shale assets. He is an active member of SPE since 2004 and he is the author of more than 10 technical papers and the technical editor of a technical book (“Mechanics of Fluid Flow” published by Wiley-Scrivener).
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Digital Oilfield, Challenges and Risks

Digital Field technology has become the standard for green field development in our industry with brown field development moving toward greater levels of digitization. The digital field technology has evolved from only gathering data to online analysis and performing real time optimization during the past forty years. The industry also leverages the digital oilfield platform to reduce OPEX and CAPEX by reengineering workflows. These workflows have either replaced human activities in the work process making them more efficient or provided proactive operational and foreseeable optimization advice.

At the same time, the E&P industry is facing more high frequency and high volume data challenges from the technical side, and change management challenges from the non-technical side. These challenges reinforce the importance of technology as well as processes and people whose organic coupling is the foundation of the digital oilfield. We as an industry have struggled with achieving the right balance as we drill in more remote locations, increase collaboration among E&P engineers across multiple office locations at greater distances from the well site, require a better understanding of the geology and rock mechanics, and respond quicker to well performance related issues.

Fangda Qiu

Fangda Qiu is a Petroleum Engineer in Schlumberger’s Information Solution group where he works on a variety of projects concerning Asset Optimization. Fangda received a B.S. in Petroleum Engineering from China University of Petroleum (Beijing) in 2008 and M.S. in Petroleum Engineering from Texas A&M University-College Station in 2010. He has held various assignments including production data analysis and mining, flow assurance and development of a new shale production forecasting method to highlight a few.
15,000 horizontal wells in the Eagle Ford took 36 days to drill in 2010 and 23 days in 2012. Directional drilling systems were in those same wells 15 days in 2010 and 13 days in 2012. Two PDC bits were used below the intermediate string in 2010, but now just one. Pad drilling in 2013 has advanced those trends even farther in 2013: 12 day wells, five days of directional…The pace of acceleration in drilling efficiency may be without precedent in the industry and is having a profound impact on the oilfield’s service and equipment sector.

Using data developed jointly with Oilfield Logix, Richard Spears will show how increasing efficiencies are creating US regional oilfield equipment and service markets that are falling despite rising new well counts.

Richard Spears

With an engineering degree from Oklahoma State University and graduate work in industrial engineering, Richard Spears has worked in the upstream oil and gas industry since 1979, starting as a field engineer for Halliburton. Today, Richard is one of the managing directors of Spears & Associates, an oilfield market research firm founded in 1965. The firm has 500 clients worldwide, including all major oil companies, all major service companies and over one hundred private and institutional investors. Richard has been with the firm since 1985.

In addition to his responsibilities as Chairman of the Board of Abrado International, Richard is on the board of directors of several additional oilfield service companies: Varel International, a global drill bit manufacturer; Federal, a subsea connector manufacturer; Allied Wireline, an openhole and cased hole logging company; and W-Technology, a manufacturer of MWD components. Board responsibilities include Audit, Compliance, Compensation and Strategy. Richard is a 25-year member of the Society of Petroleum Engineers.

Richard and his wife Carol have three grown children and live in Tulsa.
Global Deep Water Drilling in Potentially High Pressure Zones

Mr. Smith will discuss the economic and technological factors that are used in the analysis of the deep water plays worldwide.

J. Curtis Smith

Curtis Smith is a Director of Consulting at IHS CERA Consulting Americas and Asia Pacific practices. He helps companies assess strategic opportunities and forecast production and costs by leveraging the extensive US and International databases which are owned and maintained by IHS. Prior to joining IHS CERA Consulting, Mr Smith performed consulting in energy sectors of IHS and performing training and support for the company. Mr. Smith has worked with ConocoPhillips and Marathon Company, oil majors and with major law firms in the Houston area.

Mr. Smith has an MS in Geology from Brigham Young University, Provo, Utah

Event Info

SPEAKER
J. Curtis Smith
Director of Consulting
IHS CERA Consulting

LOCATION
Petroleum Club
800 Bell Street, 43rd floor
Houston, TX 77002

EVENT CONTACT
Owen Jones
207-590 5837
owen.jones@exxonmobil.com

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Comparing the Economics of Unconventional and Deepwater Mega-Projects

The growth of unconventional oil and gas activity in North America is hard to overstate. Shale-related oil and gas drilling activity now dominates North American rig counts and capital expenditures. Gas production in North America from all unconventional sources (tight sands, coal bed methane and shale gas) represents more than half of all production with shale gas representing more than 25% of domestic production. The contribution from shale gas has reversed the production decline and kept North American gas prices low. Liquids production from shales have also reversed domestic decline and are the current hotbed of activity.

Reserves and production from shales are sufficiently large that they compete with deepwater projects in attractiveness. This presentation compares the economics of unconventional drilling projects with deepwater and conventional international oil exploration and development projects. Comparably sized total projects (100 and 250 million BOE) for each project are analyzed with typical costs, timing, net cash flows and economic results illustrated. The net cash flow profiles of each project along with other risks, similarities and differences are illustrated.

Dr. D. Nathan Meehan

Dr. D. Nathan Meehan has more than 37 years of global experience in reservoir engineering, reserve estimation, hydraulic fracturing and horizontal well expertise. He currently serves as Senior Executive Advisor to Baker Hughes’ executive management. Previously he served as president of CMG Petroleum Consulting, an independent consultancy firm providing petroleum engineering services to major, independent and national oil companies, and oilfield service companies; Vice President of Engineering for Occidental Oil & Gas; and General Manager Exploration & Production Services for Union Pacific Resources.

Dr. Meehan earned his BSc degree in Physics from the Georgia Institute of Technology, his MSc degree in Petroleum Engineering from the University of Oklahoma, and his PhD degree in Petroleum Engineering from Stanford University. He previously served as Chairman of the Board of the CMG Reservoir Simulation Foundation and a Director of the Computer Modeling Group, Ltd., as Director of Vanyoganeft Oil Company, Nizhnyvartosk, Russia, as Director of Pinnacle Technologies, Inc., as a Director of the Society of Petroleum Engineers and as a Director of JOA Oil & Gas BV. He is the recipient of the Lester C. Uren Award for Distinguished Achievement in Petroleum Engineering and the Degolyer Distinguished Service Medal from the Society of Petroleum Engineers. Dr. Meehan is a licensed professional engineer in four states and recently returned from an 18-month humanitarian service mission in Asia.
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Produced Water Management - Waste to Value

Produced Water Management has become a worldwide concern. There are a growing number of mature fields, and many countries have already established strict discharge regulations in order to prevent and/or eliminate pollution resulting from the discharge of produced water.

Local conditions and requirements vary significantly with regional boundaries set geologically, geographically or politically. Solutions developed to address these local conditions and requirements many times must be solutions which are region-specific. As a result, the overall solution may require several separate steps for complete resolution (reduction, chemical removal, profile control, separation, treatment, disposal and waterflooding use, etc.). One point remains true in all cases. The end result obtained of proper produced water management in the oil and gas industry is that it is a savings to the company, not a cost.

**E. Dwyann Dalrymple**

Mr. Dalrymple is an Industry Development Manager on Global Water Management for Nalco Champion and the Scientific Development Advisor to the Board of the Americas-Middle East-Africa-Asia Produced Water Community. Until November 2009, he served as a Scientific Advisor with Halliburton’s Conformance Technology/Production Enhancement Group in Duncan, OK. He has over 30 years experience with in depth expertise in water control and well preparation including conformance technology and improved oil recovery methods. He has successfully consulted on procedures and job recommendations around the world. His most recent work led to development and application of several novel chemical systems for water shutoff, gas shutoff, and improved wellbore integrity. He has authored hundreds of publications on these topics and holds 50 patents related to Conformance technology, acidizing, sand control, fracturing and cementing.

Mr. Dalrymple was an SPE Distinguished Lecturer for 2010-2011 season.
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Adjusting the Basis of Design Why Facilities Engineers Need to Think

Great care is taken in developing an initial basis of design prior to the start of a FEED or detailed design. Unfortunately this normally results in a set of design throughput rates, pressures and temperatures which may not take into account the practical aspects these parameters may have on equipment selection and sizing. In addition, history has shown that as more information is obtained about the target reservoirs the anticipated demands on the production facility tend to change during the design, during the construction and even after the facility is installed.

Optimizing facility design for the specific parameters in the basis of design is often counterproductive. Facilities engineers need to understand the rationale behind the basis of design and question the assumptions in light of practical choices of equipment selection and system design. To do this properly, the facilities engineer must use judgment in selecting equipment by understanding the accuracy of the data used to develop the BOD as well as understanding the effects on equipment performance of changes in flow parameters.

Ken Arnold

Kenneth E. Arnold has over 45 years of industry experience with 16 years at Shell Oil Company. He founded Paragon Engineering Services in 1980 which was voted one of the best places in Houston to work by the Houston Business Journal. In 2005 Paragon was purchased by AMEC. In September 2007, Ken retired from AMEC and formed K Arnold Consulting, Inc (KACI). In 2010 he joined WorleyParsons as a part-time Senior Technical Advisor while maintaining KACI for independent consulting work.

Ken is co-author of two textbooks and author of over 50 technical articles on project management and facilities design. He has twice been chosen as an SPE distinguished lecturer. He is the VP of Finance on the Board of SPE, Treasurer-Elect of The Academy of Medicine, Engineering and Science of Texas and a former member of the Marine Board of the National Research Council. He is currently Chair of the National Research Council Committee preparing a report for the Department of the Interior on Evaluating the Effectiveness of Safety and Environmental Management Systems for Offshore Operations.

Ken has taught facilities engineering at the University of Houston as well as for several oil companies. He is a registered professional engineer and serves on the advisory board of the engineering schools of Tulane University and Cornell University.
The Future of Water in Unconventional Oil and Gas

Water management is complex and rapidly evolving, creating both risks and opportunities for operators, service providers, and investors. Two new, definitive reports by the water and unconventional oil and gas experts from IHS and CAP Resources bring together current best field practices, actual detailed spending levels, cost data, market players, scenario drivers, and opportunity insights essential to improving strategies.

Two reports:
Water Management Strategies in the US
Water Market Opportunities in the US

For additional information:
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What Can Nanotechnology Do for the Oil and Gas Industry?

With changing oil and gas prices, as well as political pressure, there is a need to improve the yield from domestic oil and gas plays. How can nanotechnology accomplish this? One of the challenges with a frac job is enabling the largest volume of the frac to be accessed by the proppant. Using nanotechnology allows for the creation of a lightweight but strong proppant with superior roundness and particle size uniformity. Environmental pressure and legislation are going to be critical factors in water usage for fracking. In particularly, the ability to economically purify frac and produced water for reuse if a growing need in the US. Nanotechnology, developed as part of an EPA grant, allows for the fabrication of functionalized non-fouling membranes that can accomplish this. Finally, how can you be sure that it is not your frac that is responsible for the claim of damage to the environment? These issues will be discussed in context of technology developed in the Barron research group.

Dr. Andrew R. Barron

After having gained his BSc and PhD degrees from Imperial College (London) and performing post-doctoral research at the University of Texas at Austin, Barron spent eight years as a Professor of Chemistry at Harvard University before moving to Rice University in 1995 where he is the Charles W. Duncan, Jr. – Welch Chair of Chemistry and Professor of Materials Science. He is also an Honorary Chair of Nanotechnology in the College of Engineering at Swansea University in the UK.

He is the author of over 380 publications, 20 Patents, 5 books, and has graduated 30 PhD students. His early research focused on the chemistry of aluminum and related elements and spanned catalysis, electronic materials and nanotechnology. His current research involves the application of nanotechnology to fundamental problems in energy and health research. His research group has projects involving water purification, down-hole sensors, carbon dioxide mitigation, and cancer treatment.

Prof. Barron is a Fellow of the Royal Society of Chemistry, and the recipient of several awards, including: Hümboaldt Senior Scientist Research Award, the Corday Morgan Medal, the Meldola Medal, and the first Welch Foundation Norman Hackerman Award. In 2009 Barron was appointed as the Prince of Wales Visiting Innovator. In 2011 he won both the Houston Technology Center’s Lifetime Achievement Award in Nanotechnology and the World Technology Award (in Materials).

In addition to teaching in chemistry and materials science, Prof. Barron created the first educational programs at Rice University to span the schools of Science, Engineering and Management. For relaxation Barron races cars, as both an amateur and professional, on both sides of the Atlantic.
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Bayesian Logic for Fun and Profit

If an athlete tests positive for performance-enhancing drugs, what is the probability that he or she is actually doping? If police increase foot patrols in an urban neighborhood but property crime increases anyway, should the foot patrols be declared ineffective and discontinued?

In an oil and gas context, suppose you drill one of two fault blocks which are adjacent to your producing field and you find it to be hydrocarbon-bearing. By how much should you increase your chance of success for the other block? If you run a well test and the results indicate that the reservoir compartment is large, how sure should you be that the compartment is, in fact, large?

“Bayesian logic” may sound arcane, but it is critical to correctly incorporating new information into our view of the world (or reservoir). It is even how one explains the infamous Monte Hall problem, in which a contestant who has chosen a box (which may or may not contain a prize) has to decide whether to trade for a different box.

Patrick Leach

Patrick Leach has over 30 of experience in the energy industry, ranging from New Orleans to Indonesia, Scotland, and now Houston. He joined Decision Strategies Inc. in 2004 as a Senior Consultant, and became CEO of the company in August of 2011. He is the author of Why Can’t You Just Give Me the Number? - An executive’s guide to using probabilistic thinking to manage risk and to make better decisions. He was also an SPE Distinguished Lecturer during 2012-2013.

Mr. Leach has a Bachelors of Science degree from the University of Rochester and an MBA from the University of Houston. He is a Charter Fellow in the Society of Decision Professionals, and holds memberships in the American Association of Petroleum Geologists, Society of Petroleum Engineers, the Decision Analysis Affinity Group, and the Institute for Operations Research and Management Science.

Event Info

**SPEAKER**
Patrick Leach
Chief Executive Officer
Decision Strategies Inc

**LOCATION**
The Courtyard on St. James Place
1885 Saint James Place
Houston, TX 77056

**EVENT CONTACT**
Miles Palke
713-750-5490
miles_palke@ryderscott.com

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Completion Design Methodology for Early Exploitation/Exploration Shale Wells

This presentation will involve a review of basic stimulation concepts to consider in the design of exploitation and/or exploration shale plays. An important key that will be highlighted: Simplicity to provide the best chance of execution success but proper engineering to provide the best gauge of the play’s economic potential.

Darrell Hebert

Darrell Hebert is currently Anadarko’s Global Technology Completion Manager, with an anticipated upcoming change to Sr. Drilling Advisor. He has 36 years’ experience in the oil & gas industry in various engineering and management positions with a primary focus on completions. He began his career with Mobil Oil Corporation with assignments covering the GOM, onshore and major international projects including an international ex-pat assignment in Qatar. His last 13 years has been with Anadarko, where he has rotated in assignments between global technology and various asset groups. Darrell has been very active in the past 6 years in stimulation support for major APC shale play positions, including the Haynesville, Eagle Ford, Marcellus and Utica. He is currently Chairman of the Completion Engineering Association and is an industry representative for the TAM Crisman Institute, UT Joint Industry Projects, and RPSEA.
SkillsUSA DISTRICT VIII FALL LEADERSHIP CONFERENCE

SkillsUSA District VIII Fall Leadership Conference at MO Campbell Center in Aldine ISD provides students information on career and scholarship opportunities through SPE. Volunteers are needed to answer questions from students about the O&G industry and hand out information. This is held in an education center and we had around 1,000 students come through last year.

EVENT LOCATION
M.O. Campbell Center in Aldine ISD
1865 Aldine Bender Rd
Houston, TX 77032

CONTACT
Amy Timmons
713-832-6563
Amy.Timmons@Weatherford.com

ENERGY DAY 2013

SPE-GCS will have an exhibit booth at Energy Day 2013 in Herman Square, City Hall in downtown Houston which is a free, family friendly festival highlighting and educating about the role of all forms of energy in our daily lives. This is from 11AM – 5PM and we can use volunteers for morning and afternoon time slots. Last year there were 15,000 attendees and 60 exhibits.

EVENT LOCATION
Herman Square, City Hall
901 Bagby
Houston, TX 77002

CONTACT
Amy Timmons
713-832-6563
Amy.Timmons@Weatherford.com

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CONTACT
Brittany Niles
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Brittany.Niles@shell.com

2014-2015 SPE-GCS SCHOLARSHIP

Available to students who maintain a GPA of 3.0 or higher and are majoring in petroleum engineering, geology, or related discipline. Note: non-petroleum engineer or geology majors who complete an internship with a company in the Oil & Gas industry are also eligible.

TO APPLY
Log on to the SPE Gulf Coast Section homepage and select the Scholarship committee page. A link to instructions and the online application can be found there.

QUESTIONS
gcs-scholarship@spemail.org

APPLICATION
http://spegcs.org/scholarship-application-instructions

DEADLINE
Complete scholarship form by 2/12/2014
OIL PATCH ORIENTATION

This seminar is one of the most popular SPE programs. The course is designed as non-technical audio-visual guided tour through the oil patch, illustrating the basic equipment and techniques used in the discovery, development and production of petroleum.

The event will begin with an introduction and an outline of the day. The following topics will be discussed: the economics & future of the petroleum industry, theory of the origins of hydrocarbons, reservoir parameters, geology of petroleum & geophysics, drilling basics, well logging, well completions, reservoir drive mechanisms, production equipment and midstream & downstream topics.

SPEAKERS
John Farina    Ken Arnold
Ron Hinn      Marty Stetzer
Susan Howes

LOCATION
Hilton Houston North
12400 Greenspoint Dr
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### Calendar

**October 2013**

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